CREATIVE IN SOMEONE ELSE'S SHOES?

THE INTERACTIVE EFFECT OF

PERSPECTIVE TAKING AND MOTIVATION ON CREATIVITY

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ABSTRACT

Creativity is difficult to obtain because people are constrained by their own existing knowledge. One seemingly logical solution to this problem might be to shift perspectives by taking another person's point of view. However, in this paper I argue and demonstrate that perspective taking seems to have detrimental rather than beneficial effects on creative idea generation, particularly when the perspective taker is in a cooperative rather than a competitive mindset. Since perspective taking tends to occur in cooperative, rather than competitive, circumstances in naturalistic settings, I conclude that shifting perspectives by taking another person's perspective might be detrimental to creative idea generation.

BIOGRAPHICAL SKETCH

Verena Krause studied Psychology with a minor in Biology at Boston University in Boston, MA. She graduated cum laude and with distinction with a Bachelor of Arts in 2005. Verena then started working at the Psychology Research Laboratory at McLean Hospital in Belmont, MA, as a research assistant. The laboratory studies cognitive and physiological traits that may identify carriers for schizophrenia genes. They have also been collecting DNA from schizophrenics and their relatives, and are collaborating with several genetic laboratories across the country in order to identify schizophrenia-related genes. Soon Verena became more interested in her coworkers' and superiors' behavior than in that of the schizophrenic patients, and thus, four years later, in the fall of 2009, Verena started the MS/PhD program in Organizational Behavior at the School of Industrial and Labor Relations at Cornell University in Ithaca, NY. Her interest in group behavior and creativity led her to work with Professor Jack Goncalo as her chair.

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Attending Professor Melissa Ferguson's lab meetings each week has been a wonderful experience. The research conducted in her lab is always fascinating and the discussions are lively and educational. Melissa makes everyone feel welcome and gives great advice. In my meetings with Melissa, she helps me improve my experimental designs, and we generate interesting new ideas for my MS thesis and dissertation. Melissa, thank you for being a great committee member.

In her class on Theory and Research in Group Decision Making, Professor Poppy McLeod introduced me to a plethora of the seminal works in the social psychology literature, such as articles by Kurt Lewin and Leon Festinger. As my committee member, Poppy is a wonderful resource; she knows articles that relate to any topic and is always willing to give me advice on where to look for relevant literature. Poppy, thank you for being a great committee member.

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INTRODUCTION

Creativity, the generation of novel and useful ideas (Amabile, 1982, 1983, 1996), requires cognitive flexibility (Nijstad, De Dreu, Rietzschel, & Baas, 2010) and the ability to shift perspectives (Duncker, 1945; Amabile, 1988; Ward, 1993, 1994). Yet, people are often constrained by their own, self-centered view of the world (Duncker, 1945; Ward, 1993, 1994). Thus, whereas creativity is desirable, people's structured, constrained way of thinking often prevents them from being creative. It has long been thought that shifting perspectives will allow people to think more broadly and thereby to think more creatively (Duncker, 1945; Amabile, 1988; Ward, 1994). Indeed, it seems intuitive that seeing the world from another perspective should help individuals move beyond the constraints imposed by their existing knowledge (Ward, 1994) and thus stimulate creative problem solving. For example, in Ward's (1993) classic structured imagination study, participants were asked to draw creatures that live on a planet unlike earth. The majority of participants drew creatures very similar to humans, even when specifically instructed not to do so. Only after being probed to think a bit harder about the possible environment of this foreign planet did participants draw more creative creatures. Thus, pointing out that a shift in perspectives from an earthly environment to an unknown, other environment was needed helped with creative output.

More recently, it has been suggested that taking another *person's* perspective or to assume the psychological perspective of another person by seeing the world through their eyes (e.g.: Davis, 1983; Galinsky, Ku, & Wang, 2005) is another way to shift perspectives and thus to help overcome these constraining barriers (Grant & Berry, 2011). In particular, Grant and Berry (2011) proposed and found evidence that "perspective taking, as generated by prosocial motivation, strengthens the association between intrinsic motivation and creativity" (p. 91). The

authors stress that perspective taking especially enhance the usefulness of the ideas generated, and thus increase the creativity of the ideas overall. However, in this paper I argue that perspective taking may have a significant downside, particularly considering the novelty of the ideas generated, that has not yet been considered in existing research. Novelty is arguably the most important aspect of creative idea generation. There is no doubt that usefulness is necessary to a certain degree, but it seems more appropriate to establish the usefulness of an idea during the idea selection phase of the innovation process, rather than be further constrained by it during the idea generation phase.

Creativity and especially novelty thrives when people want to express their uniqueness (Goncalo & Staw, 2006), when they disagree with and compete against one another (Cummings & Oldham, 1997; Shalley & Oldham, 1997; Munkes & Diehl, 2003), go against social norms (Nemeth, 1986; Nemeth & Staw, 1989), and create task-related conflict (Nemeth, Personnaz, Personnaz, & Goncalo, 2004). In contrast, substantial evidence suggests that perspective taking leads people to see themselves as similar to others (Galinsky et al., 2005 for a review), to be motivated by cooperation rather than by competition (Johnson, Johnson, Johnson, & Anderson, 1976; Tjosvold, Johnson, & Johnson, 1984), and to avoid conflict (Rupp, McCance, Spencer, & Sonntag, 2008; Galinsky, Maddux, Gilin, & White, 2008). Hence, I argue that perspective taking can actually reduce the kind of independence of thought that is necessary for creative ideas to germinate (Goncalo & Krause, 2010). In short, I develop a theoretical argument in which perspective taking actually stifles creative idea generation, and I test this prediction in an experiment.

The Consequences of Perspective Taking for Social Interaction

Perspective taking is critical for people to function effectively in social life (Piaget, 1932; Mead, 1934). As suggested by Davis (1983), perspective taking helps people to understand how another person perceives the world, to get a glimpse at what that person might be thinking and feeling, so that they can adjust their own behavior towards that person accordingly. By taking the perspective of another person, people show that they value that person's opinion and viewpoint (Laurent & Myers, 2011). This is partially made evident by the finding that interactions with perspective takers are viewed as more positive by the person whose perspective is being taken (Todd, Bodenhausen, Richeson, & Galinsky, 2011). Hence, perspective taking helps with understanding another person's point of view: it induces willingness to cooperate with that person (Batson & Moran, 1999), and shows that the other person's well-being matters (Batson, Sager, Garst, Kang, Rubchinsky, & Dawson, 1997).

Furthermore, a large body of literature has demonstrated how perspective taking facilitates social interaction. Davis (1983), for example, demonstrated that dispositionally high perspective takers are generally more socially competent than dispositionally low perspective takers. Furthermore, taking the perspective of others induces helping behaviors (Batson et al., 1997), reduces conflict (Rupp, McCance, Spencer, & Sonntag, 2008; Galinsky, Maddux, et al., 2008), facilitates forgiveness (Exline, Baumeister, Zell, Kraft, & Witvliet, 2008), reduces stereotypes (Galinsky & Moskowitz, 2000), and makes communication more effective (Patient & Skarlicki, 2010).

The empathy literature provides additional evidence for the benefits of perspective taking in social interaction. Empathy is the form of perspective taking that focuses on people's ability to feel the emotions another is feeling. Batson, Turk, Shaw, and Klein (1995) demonstrated that

people who are induced to feel empathy value another person's welfare more than people who are not induced to feel empathy. Valuing another person's welfare is a clear indication that one cares about this person, and one usually cares about the people with whom one is in close personal relationships. Interestingly, Batson et al. (1995) found that the reverse was also true: valuing another person's welfare increased empathy for this person. Hence, there seems to be a positive spiraling effect between valuing a person's welfare and empathy, which would lead to an increasingly closer relationship between two people. Empathy also induces altruism (Van Lange, 2008), and helping behavior in general (Galinsky et al., 2005). These examples demonstrate that empathy, as a particular form of perspective taking, further enhances social interactions.

Not surprisingly, these processes translate into higher quality relationships in a variety of settings. For example, customer service employees who feel treated unfairly by their customers benefit from perspective taking via a reduction in surface acting, which is defined as the display of emotions that one is not actually feeling (Rupp et al., 2008). Perspective taking enabled the employees in this study to actually feel the emotions they were supposed to convey to their customers (Rupp et al., 2008). Similarly, in romantic relationships, high perspective taking and empathy, especially during disputes, positively predicted a satisfying relationship (Davis & Oathout, 1987; Long & Andrews, 1990) Thus, perspective taking reduces inner as well as interpersonal conflict, which, in turn, enhances social interactions.

In sum, there is substantial evidence that perspective taking can provide a foundation for meaningful and healthy relationships. These effects are wide ranging, and they seem to revolve around a common psychological mechanism, the merging of the self with the other (Davis, Conklin, Smith, & Luce, 1996; Galinsky & Moskovitz, 2000; Galinsky, et al., 2005 for a review; Goldstein & Cialdini, 2007; Galinsky, Wang, & Ku, 2008; Laurent & Myers, 2011). Both forms

of perspective taking, imagine-self (imagining how one would feel if one was in the other's position) and imagine-target (imagining what the other person is thinking and feeling) bring the other closer to the self, so that the other is more "self-like" and the self closer to the other, so that the self becomes more "other-like" (Galinsky et al., 2005). For example, in one study, participants projected their own, positive traits onto another during perspective taking, which led to a greater degree of overlap between the cognitive representations of self and other, and to a greater liking of, and a desire to befriend, the other person (Davis et al., 1996). Projecting one's own characteristics onto another during perspective taking seems to be even more likely to occur when one already perceives the other to be similar to, rather than different from, the self (Ames, 2004). Because people tend to see the self in a positive light (e.g. Greenwald, 1980), enabling people to cognitively represent others as similar to the self generally leads to seeing others in a positive light as well.

Increasing self-other overlap has several important consequences for social interaction. First, perspective taking leads to the inclusion of others' characteristics in the self and thus impacts self descriptions (Galinsky, Wang, & Ku, 2008). For example, people rely on stereotypes when trying to take the perspective of another, and interestingly, both positive and negative stereotypes of others can be included in the self via perspective taking. Evidence for this stems from one study in which participants were asked to take the perspective of a university professor or a cheerleader, to perform better and worse, respectively, on a subsequent analytic task (Galinsky, Wang, & Ku, 2008). Presumably, taking the perspective of a professor, who is generally stereotyped to be intelligent, leads people to behave more intelligently. Likewise, taking the perspective of a cheerleader, who is generally stereotyped to be of less intelligence, leads people to behave less intelligently. Clearly then, it is also possible to include others'

negative characteristics into the self during perspective taking, which consequently leads to less desirable outcomes (Galinsky, Wang, & Ku, 2008), as the cheerleader example demonstrates. In a series of studies Galinsky, Wang, and Ku (2008) provided further evidence for these negative effects by having participants take the perspective of the elderly or of African Americans. People who took the perspective of an elderly person felt weaker and more dependent on others, both stereotypical of the elderly (Galinsky, Wang, & Ku, 2008). Likewise, people who took the perspective of an African American saw themselves as possessing both stereotypically positive traits of this group, such as athletic and rhythmic abilities, and stereotypically negative traits such as aggressive and loud tendencies (Galinsky, Wang, & Ku, 2008). Thus, the self-other overlap also encourages negative traits to be projected from others into the self.

Second, the self-other overlap induced by perspective taking may make the norms of the other person and of the situation salient. By taking another person's perspective, one becomes aware of the situational norms that influence this person's behavior, and via the self-other overlap, one might then incorporate those norms into oneself. Cialdini and colleagues (1990; 2000) repeatedly demonstrated that people are more likely to behave in accordance with a norm when it is made salient. Thus, perspective taking may increase the salience of the situational norm and lead people to act in accordance with it.

Creativity and Perspective Taking

A long stream of research has highlighted the benefits of perspective taking, such as the reduction of conflict, for social interaction. In this section, I connect the disparate literatures on perspective taking and creativity to argue that the very psychological process underlying perspective taking that is typically viewed as beneficial for a wide range of outcomes (e.g., increasing self-other overlap) may actually stifle rather than stimulate creative thought. The

reason is that perspective taking may trigger a psychological orientation that runs counter to that which is necessary for creative problem solving. Truly creative ideas are unusual (Amabile, 1982, 1983, 1996), risky to pursue to fruition (Simmons & Ren, 2009), and counter to the status quo and thus a threat to established social norms (Nemeth & Staw, 1989). Consequently, when creative ideas are expressed, they can generate conflict and controversy (Troyer & Youngreen, 2009). Not surprisingly then, people who are unique and stand out from others (Goncalo & Staw, 2006), who are willing to take risks (Dewett, 2006), who are willing to openly engage in conflict (Nemeth et al., 2004), and even dissent against social norms (Nemeth, 1986) are more likely to generate creative ideas.

Competition, in particular, has been highlighted as a critical antecedent to creative expression because it can motivate people to stand out from others to generate more novel solutions (Goncalo & Kim, 2010). A competitive mindset has been shown to enhance creativity (Cummings & Oldham, 1997; Shalley & Oldham, 1997, Munkes & Diehl, 2003) because competition encourages people to emphasize their uniqueness (Goncalo & Krause, 2010), and it makes them want to outperform others (Rijsman, 1974), which is why people strive to not only find more solutions than their competitors, but solutions that go into different directions and are qualitatively better. Evidence for this stems from research by Munkes & Diehl (2003), who showed that interpersonal competition leads to increased fluency and flexibility of ideas generated in a brainstorming task. Furthermore, in competitive group settings, people are comfortable and willing to disagree with one another, debate, and cause task-related conflict, which are all behaviors that are conducive to creative idea generation (Nemeth et al., 2004).

In contrast, many find that a cooperative mindset stifles creativity (Beersema & De Dreu, 2005; Goncalo & Staw, 2006; Ashton-James & Chartrand, 2009; Goncalo & Kim, 2010).

Cooperation generally means avoiding conflict (Chizhik, Shelly, & Troyer, 2009), but task-related conflict is beneficial in creative problem solving (Nemeth et al., 2004; Troyer & Youngreen, 2009). Cooperation encourages people to agree with one another and incrementally build on each other's ideas rather than go into completely different directions (Kohn & Smith, 2011). Furthermore, because there is no desire to outperform others once an acceptable solution to a problem is found, it is often chosen as the final solution (Schwartz, Ward, Monterosso, Lyubomirsky, White, & Lehman, 2002). Hence, a satisfactory rather than the best solution is agreed upon.

Further evidence for the negative effects of cooperation and the positive effects of competition on creativity stems from a direct comparison of these two social motives. Beersma and De Dreu (2005) showed that if group members had a prosocial tendency, meaning that they cooperated during a negotiation task, these group members performed better on a subsequent convergent thinking task than on one involving divergent thinking; however, if group members had a proself tendency, meaning that they competed during a negotiation task, the results were reversed--the proself group members performed better on a subsequent divergent thinking than a convergent thinking task. Similarly, Goncalo and Staw (2006) conducted a study comparing the effects of two different cultural values on creative idea generation. The researchers primed participants either with individualism, defined as a person's tendency to be independent, unique, and competitive, or with collectivism, defined as a person's tendency to be interdependent, cooperative, and to want harmony with others. On the subsequent idea generation task, individualistic groups generated more ideas that were more creative than those generated in collectivistic groups. Goncalo and Staw (2006) argue that individualism promotes creativity because uniqueness and the willingness to stand out from the group are admired and encouraged

characteristics, whereas collectivism stifles creativity because it does the opposite: it creates cohesion and conformity within the group. Whereas these latter, comparative examples stem from group studies, simply having a cooperative or competitive mindset has a similar effect on individuals' creative performance. When people's mindset was to be alone, independent, different from others, and competitive, they exhibited greater creativity than when people's mindset was to be with others, to conform, to be accepted, and to cooperate (Wiekens & Stapel, 2008).

In contrast, people are more likely to engage in perspective taking when they are motivated to cooperate with, rather than compete against, others (Johnson, Johnson, Johnson, & Anderson, 1976; Tjosvold, Johnson, & Johnson, 1984). Evidence for this claim stems from a study showing that negotiators were much more accurate at understanding each other's perspectives when the negotiation was framed as cooperative rather than competitive (Tjosvold et al., 1984). Another study compared fifth-graders who were either put in a cooperative or an individualistic classroom structure (Johnson et al., 1976). The cooperative structure facilitated perspective taking, whereas the individualistic structure did not. Clearly then, a cooperative mindset seems to facilitate perspective taking, whereas an individualistic, competitive mindset hinders it.

Although it is less often observed in naturalistic settings, it is possible to take the perspective of a competitor. The studies of particular interest here demonstrate that, during a competitive negotiation, perspective takers were less willing to compromise than during a cooperative negotiation (Epley, Caruso, & Bazerman, 2006). Epley et al. (2006) have two consistent findings across their studies; people intend to be fair, but act selfishly. In particular, whereas perspective takers agreed that a fixed number of resources should be split up fairly between them and the other party, thus asking for less of the resource than the participants who

did not take the other party's perspective, their actual actions did not match their intentions. Instead, perspective takers consistently engaged in what the authors term reactive egoism. When the opportunity to actually take resources arose, perspective takers took significantly more than previously indicated as fair because they assumed that the other party would do so as well. Thus, the authors argue that, in a competitive setting, perspective taking leads to the assumption that others are selfish, which in turn leads the perspective taker to react with selfishness. In a cooperative negotiation, however, the perspective taker is less likely to believe that the other party is selfish and thus is more compromising and less selfish as well (Epley et al., 2006). From this negotiation example it becomes clear that perspective taking has different outcomes depending on whether one cooperates with or competes against the person whose perspective one takes. These findings seem to confirm the idea that perspective taking makes situational norms salient, in this case competition or cooperation, which in turn leads people to act in accordance with these norms (Cialdini, Reno, & Kallgren, 1990; Kallgren, Reno, & Cialdini, 2000).

When focusing on one's own perspective, the norms that one has been socialized to accept, one's personal norms, become salient rather than the norms that the current situation demands (Kallgren et al., 2000). In other words, focusing on one's own, egocentric perspective induces people to become aware and act in accordance with their idiosyncratic, *personal* norms (Kallgren et al., 2000) and neglect the *situational* norms. For some people, working with another person might bring out their competitive side, for others cooperation might be the norm. Either way, being made aware of the situational norm might only minimally influence people who focus on their own point of view. Instead, the effect this awareness might have on an egocentric

person is to trigger their personal norms, which might coincide with or be different from the situational norm.

Overview and Hypothesis

In thinking about the relationship between perspective taking and creativity, whereas the most proximate prediction might be that taking another person's perspective should increase creativity because it might free people from their structured, constrained, self-centered view of the world, this relationship may in fact be more complicated than one might initially assume because perspective taking may actually reduce independent thought necessary for creative idea generation. Yet, the stifling effects of perspective taking may not be inevitable. Perspective taking may make the situational norms that affect the other person salient, and thus more likely for people to behave in accordance with those norms (Cialdini et al., 1990; Kallgren et al., 2000). Thus, whether perspective taking is stifling or stimulating may depend on the underlying social motives of the person whose perspective one takes, specifically whether one assumes that their motives are cooperative or competitive, respectively. By making the norm to cooperate salient, taking the perspective of a partner with whom one is cooperating might stifle creativity because cooperative settings generally lead to a reduction in creative output (Beersema & De Dreu, 2005; Goncalo & Staw, 2006; Ashton-James & Chartrand, 2009; Goncalo & Kim, 2010). Conversely, by making the norm to compete salient, taking the perspective of a partner with whom one is competing might actually stimulate creativity (Cummings & Oldham, 1997; Shalley & Oldham, 1997; Munkes & Diehl, 2003). In fact, it has already been demonstrated that, in competitive negotiations, perspective takers discovered compromises when, at first evaluation, a deal seemed impossible (Galinsky, Maddux, et al., 2008). Whereas creativity was not directly measured in

this study, one might argue that a compromise is a creative solution to the problem because the negotiators had to think of novel ways to come to an agreement.

In contrast, focusing on one's own perspective makes one's personal norm salient (idiosyncratic personal beliefs about competition vs. cooperation), rather than the norms that the current situation demands (Kallgren et al., 2000). In other words, focusing on one's own, egocentric perspective induces people to become aware and act in accordance with their idiosyncratic, *personal* norms (Kallgren et al., 2000), and to potentially reduce the power of the *situational* norm (competition or cooperation) to influence behavior. Together these insights lead to my hypothesis:

H: I hypothesize an interaction between perspective taking and social motive such that perspective taking reduces creative idea generation in cooperative situations and enhances it in competitive situations.

METHODS

In order to test this hypothesis, I conducted an experiment in which I manipulated perspective taking by either having participants take the perspective of another participant or by having them focus on their own perspective and social motives--cooperative or competitive--and measured the creativity of the ideas generated in a brainstorming task in three different ways. Thus, I employed a two-by-two between participants design, which aimed to test the predicted interaction. Participants entered the study thinking that their problem-solving skills would be tested.

Generally, the perspective taking and empathy literature has shown gender differences in the degree to which men and women take others' perspectives and empathize with others

(Hoffman, 1977; Toussaint & Webb, 2005; Fagley, Coleman, & Simon, 2010). Thus, gender was used as a covariate in all analyses.

Experimental Design and Participants

The experiment conducted used a 2 (perspective taking: perspective taking/egocentric) x 2 (social motive: cooperation/competition) between participants design. Participants were 128[1] undergraduate students at a large university in the Northeastern United States who participated in the experiment for extra credit. In addition to the extra credit, participants took part in a lottery in which one person could win $100. This lottery served as an additional motivator (see experimental procedure section). The average age of the final 120 participants was 19.4 years and 50% were female. The self reported ethnicity of these participants can be found in Table 1 in Appendix A. The participants were randomly assigned to one of the four conditions.

Experimental Procedure and Tasks:

Four students simultaneously participated in the experiment. Participants saw each other in the waiting area, but were then led into four adjacent cubicles, so that they were aware of each others' presence, but could not see each other during the experiment. This procedure was supposed to give the impression that, once the participants were done with the individual part of the experiment, they would be paired up with another participant to complete another problem-

[1] Originally, data from 128 participants was collected. However, the data from eight participants had to be removed from the dataset because they misunderstood the idea generation task. Instead of listing suggestions for what new business could go into the space of the former restaurant, they explained in detail how they would improve the management and quality of food at the existing restaurant so it would not need to be closed or could be re-opened. Four of these eight participants were female, and their average age did not differ from the participants whose data was included. No condition was over-represented among these participants (2 egocentric /cooperation, 3 perspective taking/cooperation, and 3 perspective taking/competition).

solving task, but they did not know with whom of the three. This setup helped with the following manipulations:

Social Motive and Perspective Taking Manipulations:

In order to manipulate social motive, participants were first individually informed that they will later compete against (or cooperate with) another participant on a problem-solving task. They were then told that, in order to prepare for this later interaction, they needed to write a paragraph about what they are thinking and how they are feeling (or to imagine what the other participant might be thinking and how the other participant might be feeling) about this later competitive (or cooperative) interaction. An example of the exact phrasing is as follows: "Imagine what the other participant is likely thinking and feeling about competing against you on a problem-solving task. Really try to take the other participant's perspective, put yourself into this person's shoes and look at the situation through this person's eyes," which corresponds to a typical perspective taking manipulation (see Appendix D for exact instructions; also see Galinsky, Wang, & Ku, 2008)[2]. Writing this paragraph served two functions: First, it allowed the manipulation of perspective taking by having participants either write from their own, egocentric perspective or from another's perspective. Second, it strengthened the social motive manipulation because participants were required to contemplate how they (or the other participant) think(s) and feel(s) about the upcoming competition or cooperation, thus keeping the social motive manipulation on their minds. This strengthening seemed necessary because norms such as

[2] Both forms of perspective taking, imagine-self and imagine-target, tend to have the same consequences and operate through the same underlying mechanisms (Davis et al., 1996; Takaku, 2001). In this experiment, I chose an imagine-target perspective taking manipulation.

cooperation and competition only have an effect on behavior when they are being made salient (Kallgren et al., 2000).

Creativity Task:

Individual participants completed an idea generation task that served as the measure of creativity. They were given seven minutes to generate as many ideas as possible on what new business could go into the space of a previous university restaurant that was recently closed due to poor quality food and mismanagement (see Appendix E; taken from Goncalo & Staw, 2006).

Creativity was measured in three well-established ways: fluency, originality, and flexibility (e.g. Nijstad et al., 2010). Whereas originality is of most interest to organizations (Amabile, 1988; George, 2007), I was also interested in replicating the finding mentioned earlier that interpersonal competition increases fluency and flexibility (Munkes & Diehl, 2003), but only in the perspective-taking condition and not in the egocentric condition. Thus, all three measures were taken. In order to avoid biases, the coder (the author) was blind to condition.

Fluency refers to the sheer number of responses in a brainstorming task such as the unusual uses task (e.g. List as many uses for a brick as possible; Guilford, 1967). Osborn (1953), who invented the brainstorming procedure, claimed that quantity leads to quality. Thus, he assumed that the more ideas an individual or a group comes up with, the more creative ideas will be among them. This assumption has since been validated (Parnes & Meadow, 1959; Diehle & Strobe, 1987; Rietzschel, Nijstad, & Stroebe, 2006).

A participant's average originality (unusualness/infrequency) was measured by combining the ideas of all 120 participants and scoring each idea by how many other participants had the same idea, and then averaging the scores of all ideas each person came up with. For example, whereas 43 participants suggested putting a book store into the available space, only

one person suggested putting a tanning salon into the space. Thus, book store received a score of 43 and tanning salon a score of 1. Because a larger number indicates that the idea was more usual and frequent, more original participants received a lower overall score, indicating higher creativity. These were then reverse scored in order to ease the understanding of Figure 2 and align the results with Figures 1 and 3.

A participant's flexibility score was measured by counting the number of different categories from which the participant generated ideas. Examples of these categories are stores, restaurants, entertainment, and sports.

Lottery:

In order to increase participants effort, they were told that their name would be put into a lottery to win $100 if they won the competition against the other participant or if they and the participant they cooperated with performed among the 3 highest performers on the later problem solving task (see De Dreu, Weingart, & Kwon, 2000 for similar instructions). Participants never actually worked on any tasks with another participant; all dyadic interactions were merely anticipated. Thus, all 128 participants were included in the lottery.

Manipulation Checks:

Social Motive:

In the post-experimental questionnaire (see Appendices B and C) participants were asked to recall if they were told that they had to compete against (and in a separate question cooperate with) another participant on a later problem solving task. Both questions were answered on a 5 point Likert-type scale (1 = strongly agree, 5 = strongly disagree).

Perspective Taking:

In the same questionnaire, participants were also asked to recall if they had to take the perspective (put themselves into the shoes) of another participant. The same 5 point Likert-type scale was used.

Personal Norms:

In the same questionnaire participants were asked about their personal norms regarding cooperation and competition. Participants answered on the same 5 point Likert-type scale how much they agreed with four statements about their personal stance towards cooperation. An example of such a statement is: "I feel cooperating with others is important in both work and games." Likewise, participants answered on the same scale how much they agreed with seven statements about their personal stance towards competition. An example of such a statement is: "It is important that I do better than others." The competitive statements were later reverse scored in order to obtain an average personal norm score made up of all eleven items. Thus, a high personal norm score refers to a general tendency to be cooperative whereas a low person norm score refers to a general tendency to be competitive.

Demographics:

Participants also reported their gender, ethnicity, year born, and year in college on the questionnaire.

RESULTS

Manipulation Checks:

The 2 (perspective taking/egocentric) x 2 (cooperation vs. competition) analysis of variance (ANOVA) on the perspective taking manipulation check showed a significant main effect of perspective taking, $F(1, 116) = 189.9$, $p < .001$, $\eta^2 = .62$, but no main effect of social

motive, $F(1, 116) = 1.3$, $p = ns$, $\eta^2 = .01$, and no significant interaction, $F(1, 116) = .9$, $p = ns$, $\eta^2 = .01$. Perspective takers correctly recalled that they had to take the perspective (put themselves into the shoes) of another participant ($M = 1.25$, $SD = .8$), whereas egocentric participants correctly recalled that they did not have to take the perspective of another participant ($M = 3.93$, $SD = 1.3$), $t(118) = -13.8$, $p < .01$.

The two social motive manipulation checks showed significant main effects of social motive. The 2 (perspective taking/egocentric) x 2 (cooperation vs. competition) ANOVA on the competition manipulation check showed a significant main effect of social motive, $F(1, 116) = 106.2$, $p < .001$, $\eta^2 = .49$, but no main effect of perspective taking, $F(1, 116) = 1.5$, $p = ns$, $\eta^2 = .01$, and no significant interaction, $F(1, 116) = .8$, $p = ns$, $\eta^2 = .01$. The participants in the competitive conditions correctly recalled that they were told that they had to compete against another participant ($M = 1.1$, $SD = .3$), whereas participants in the cooperative conditions correctly recalled that they were not told that they had to compete against another participant ($M = 3.3$, $SD = 1.7$), $t(118) = 10.3$, $p < .001$).

The 2 (perspective taking/egocentric) x 2 (cooperation vs. competition) ANOVA on the cooperation manipulation check showed a significant main effect of social motive, $F(1, 116) = 41.95$, $p < .01$, $\eta^2 = .26$, but no main effect of perspective taking, $F(1, 116) = .6$, $p = ns$, $\eta^2 = .01$, and no significant interaction, $F(1, 116) = .1$, $p = ns$, $\eta^2 = .001$. The participants in the cooperative conditions correctly recalled that they were told that they had to cooperate with another participant ($M = 1.3$, $SD = 1.4$), whereas participants in the competitive conditions correctly recalled that they were not told that they had to cooperate with another participant ($M = 3.2$, $SD = 1.7$), $t(118) = -6.5$, $p < .01$.

Creativity: Fluency, Originality, and Flexibility

Table 2 in Appendix A lists all means and standard deviations per condition and Table 3 in Appendix A shows the correlations among the three dependent variables and the personal norm score.

Fluency:

A 2 (perspective taking/egocentric) x 2 (cooperation vs. competition) ANOVA revealed no main effects of perspective taking, $F(1, 115) = .12$, $p = ns$, $\eta^2 = .001$, or social motive, $F(1, 115) = 1.6$, $p = ns$, $\eta^2 = .01$, on the fluency measure. A marginally significant interaction emerged, $F(1, 115) = 3.8$, $p = .055$, $\eta^2 = .03$. Participants who took the perspective of another unknown person generated significantly fewer ideas when expecting to cooperate with this person ($M = 9.7$, $SD = 8.3$) than when expecting to compete against ($M = 14.0$, $SD = 7.3$) this person, $t(115) = 5.02$, $p = .03$, $\eta^2 = .04$, supporting my hypothesis. Figure 1 in Appendix A shows these results in visual form. Furthermore, gender had no significant effect on fluency, $F(1, 115) = 1.5$, $p = ns$, $\eta^2 = .01$.

Originality:

A 2 (perspective taking/egocentric) x 2 (cooperation vs. competition) ANOVA revealed a significant main effect of social motive on the originality measure, $F(1, 115) = 3.9$, $p = .05$, $\eta^2 = .03$, but no significant main effect of perspective taking, $F(1, 115) = .7$, $p = ns$, $\eta^2 = .01$. As predicted in my hypothesis, the ANOVA revealed a significant interaction between perspective taking and social motive, $F(1, 115) = 4.32$, $p = .04$, $\eta^2 = .04$. As expected, participants were significantly less original in the perspective taking condition when expecting to cooperate with ($M = 42.5$, $SD = 17.2$) rather than compete against ($M = 50.2$, $SD = 6.7$) another unknown participant on a later problem solving task, $t(115) = 8.0$, $p = .006$, $\eta^2 = .07$. Additionally,

participants were significantly less original in the perspective taking (M = 42.5, SD = 17.2) than in the egocentric condition (M = 48.9, SD= 9.6) when expecting to cooperate with another unknown participant on a later problem-solving task, t(115) = 4.28, p = .04, η^2 = .04. Figure 2 in Appendix A shows these results in visual. Furthermore, gender had a significant impact on originality F(1, 105) = 8.9, p = .003, η^2 = .06. Female participants (M = 50.45, SD = 12.2) were significantly more original than male participants (M = 44.87, SD = 13.5), t(118) = 2.4, p = .02.

Flexibility:

A 2 (perspective taking/egocentric) x 2 (cooperation vs. competition) ANOVA revealed no main effects of perspective taking, F(1, 115) = .001, p = ns, η^2 = .00 or social motive, F(1, 115) = .72, p = ns, η^2 = .01. As predicted in my hypothesis, a significant interaction emerged between perspective taking and social motive, F(1, 115) = 4.34, p = .039, η^2 = .036 for the flexibility measure. Within the perspective taking conditions, participants were significantly less flexible in the cooperative (M = 5.7, SD = 4.0) than in the competitive (M = 7.7, SD = 3.2) condition, t(115) = 4.19, p = .04, η^2 = .04. Figure 3 in Appendix A shows these results in visual form. Furthermore, there was no significant main effect of gender, F(1, 115) = .33, p = ns, η^2 = .003.

Personal Norms:

A 2 (perspective taking/egocentric) x 2 (cooperation vs. competition) ANOVA revealed no main effects of perspective taking, F(1, 115) = .44, p = ns, η^2 = .004 or social motive, F(1, 115) = 3.24, p = .074, η^2 = .027 on participants' personal norm score. The interaction was likewise non-significant F(1, 115) = .74, p = ns, η^2 = .006. Furthermore, a significant main effect of gender emerged, F(1, 115) = 14.47, p = .0002, η^2 = .11. Female participants (M = 2.7, SD =

.54) rated themselves as significantly more cooperative than male participants (M = 3.0, SD = .43), t(118) = 3.79, p = .0002.

There were marginally significant negative relationships between personal norms and fluency, r(120) = -.17, p=.07, and between personal norms and originality, r(120)=-.18, p=.052 indicating that as the personal norms score increased, which corresponded to a more cooperative personal norm, both the number of ideas generated and the originality of the ideas decreased. The personal norm did not correlate with flexibility, r(120) = -.09, p=ns.

DISCUSSION

The results of this study suggest that perspective taking hinders creative idea generation in its most natural occurrence: cooperative settings. As my hypothesis predicted, in all three measures of creativity a significant or marginally significant (fluency) interaction between the social motives and the perspective taking conditions emerged. In particular, perspective takers who expected to cooperate with another person generated fewer ideas. Moreover, the ideas were less original and were drawn from fewer distinct categories than the ideas of perspective takers who expected to compete against another person.

Perspective Taking

These results might seem in direct opposition to the findings in Grant & Berry's (2011) studies. However, Grant & Berry (2011) argue and demonstrate that a prosocial motive, which they define as "the desire to benefit others" (p. 74) has a positive effect on creative idea generation. While related, a prosocial motive clearly differs from a cooperative motive in that the former focuses on benefiting others, whereas the latter focuses on benefiting the group, which includes the self. For this reason, Grant & Berry (2011) repeatedly stress the effect of perspective taking on usefulness for others, whereas the results in this paper stress the effect of perspective

taking on originality and flexibility, both a function of novelty rather than usefulness. As mentioned before, while usefulness is an important part of creative output, novelty is arguably more important during the idea generation phase. Generating a novel, possibly bizarre idea that is not useful has the potential, after some refinement, to be converted into a useful idea. Furthermore, voicing highly novel, even bizarre ideas might spark oneself or others to think of related, but more useful ideas. Generally, usefulness seems to matter more during idea selection rather than generation. And research has demonstrated that during idea selection, people naturally emphasize usefulness, appropriateness, and feasibility (Rietzschel, Nijstad, & Stroebe, 2010) . Thus, the usefulness aspect of creativity might be better placed in the idea selection stage of the innovation process whereas novelty should be emphasized during the idea generation phase. Thus, whereas Grant & Berry (2011) argued that the usefulness of ideas generated increased with perspective taking under prosocial conditions, I argue and demonstrated that perspective taking under cooperative conditions negativity affects the novelty of ideas generated.

Egocentric Perspective

Even though a main effect of social motive emerged in the originality results, this main effect was clearly driven by the perspective taking conditions. In the egocentric conditions, no differences between the cooperative and competitive conditions were observed, which at first might seem puzzling because, as mentioned previously, research has repeatedly demonstrated that a cooperative mindset stifles creativity (Beersema & De Dreu, 2005; Goncalo & Staw, 2006; Ashton-James & Chartrand, 2009) and a competitive mindset enhances it (Cummings & Oldham, 1997; Shalley & Oldham, 1997, Munkes & Diehl, 2003). However, these results are in line with the idea that egocentrism triggers the awareness of one's personal norms (Kallgren et al., 2000) at a cost of the situational norms. The personal norms of being cooperative and competitive were

measured and combined in one score. No significant differences emerged on this personal norm score for the different conditions, indicating that personal norms were unaffected by the manipulation of the social motives. Furthermore, the average personal norm score fell very close to 3 indicating that on average participants saw themselves as neither particularly cooperative nor particularly competitive, which seemed to translate into creative output that was on average neither stellar nor particularly low.

There were, however, marginally significant negative correlations between the personal norm score and originality, and between the personal norm score and fluency, indicating that the participants who generally perceived themselves as cooperative were less original and fluent than the participants who generally perceived themselves a competitive. Consequently, the results seem to corroborate that cooperation stifles creativity and competition enhances it, but when specifically focusing on one's own thoughts and feelings the salience of the situational norm (or social motive) seems weakened and their effects lessened. Instead, the variance in personal norms within the egocentric conditions seems to wash out any observable stifling or enhancing effects on creativity.

Proposed Mechanism and Alternative Explanations

Even though neither the self-other overlap induced by perspective taking nor its proposed consequence-- the salience of the situational norm--were directly measured, the obtained results are in line with the prediction that perspective taking makes the situational norm salient, and thus strengthens the cooperative and competitive mindsets leading to a stifling effect in the cooperative condition.

However, two alternative explanations seem reasonable. Whereas all participants anticipated to later interact with another participant, the perspective takers might have been more

aware of this later interaction because they viewed it from the other person's point of view. As a consequence, the perspective takers might have been affected differently by the anticipation. For example, competitive perspective takers might have been more aroused than cooperative perspective takers, potentially because perspective taking led them to the realization that the other person might later compare and evaluate their performances on the interactive task. And thus, the first alternative explanation is that a healthy amount of arousal, created by the potential for social-evaluation in the competitive condition, is beneficial to creativity (Byron, Khazanchi, & Nazarian, 2010). Cooperation, on the other hand, seems less likely to lead to comparison within a dyad, and thus evaluation apprehension is less likely to occur. The consequently low levels of arousal are not conducive to creative idea generation (Byron et al., 2010).

The second alternative explanation is that because perspective takers might have been more aware of the anticipated interaction, the cooperative perspective takers might have been more likely to engage in social loafing, defined as the decrease in personal effort when individuals perform a task as part of a dyad or group (Latane, Williams, & Harkins, 1979). Social loafing leads to a reduction in persistence and effort, which is necessary for creative idea generation (Nijstad et al., 2010), and is more likely to occur in the cooperative than in the competitive condition. The current results are unable to rule out these alternative explanations. Thus, further research is necessary to determine the actual mechanism underlying the reported results.

Contributions & Implications

Nevertheless, these findings add to the scarce literature on the less desirable effects of perspective taking, and demonstrate for the first time that perspective taking can have negative effects under explicitly stated cooperative conditions. Whereas perspective taking usually leads

to desirable outcomes under cooperative conditions (Rupp et al., 2008; Exline et al., 2008; Galinsky & Moskowitz, 2000; Batson et al., 1997; Patient & Skarlicki, 2010; Epley et al., 2006), the present study shows that the cooperative perspective taker's creativity of ideas is stifled. Furthermore, whereas Epley et al. (2006) demonstrated a less desirable effect of perspective taking in competitive negotiations, namely reactive egoism, the present study showed that in comparison to anticipated cooperation, anticipating a competitive interaction seemed to enhance the effects of perspective taking, leading to greater creativity on three different creativity measures. Usually, however, perspective taking occurs under cooperative conditions (Johnson et al., 1976; Tjosvold et al., 1984) and might thus be a hindrance to creative performance.

The current findings also contribute to the creativity literature by demonstrating that shifting perspectives does not always lead to higher creative output. The present study demonstrates that shifting perspectives by taking another person's perspective seems beneficial in competitive situations, but detrimental in cooperative situations. Originality of ideas seems particularly detrimentally affected by the anticipation of a cooperative interaction, and originality is arguably the most important aspect of creativity. Furthermore, nominal brainstorming groups, in which group members first individually brainstorm ideas and then pool their ideas and cooperatively work on a final solution, have been deemed more creative than interactive groups (Rietzschel, Nijstad, & Stroebe, 2006). One possible implication of the findings in the current study is that taking the perspective of the people with whom one anticipates to work cooperatively might stifle the creativity of nominal brainstorming groups.

Last, it is no news that brainstorming ideas in groups is not beneficial to creative idea generation, especially when cooperation is the norm in said group (Beersema & De Dreu, 2005; Goncalo & Staw, 2006; Ashton-James & Chartrand, 2009). However, this study shows that

merely thinking about another person's perspective with whom one intends to cooperate also has detrimental effects on the three major aspects of creativity: originality, fluency, and flexibility. These findings might thus add to the notion that seclusion from others is more beneficial at the initial stages of the innovation process, namely during creative idea generation (Kim, Vincent, & Goncalo, 2012) than interacting or intending to interact with cooperative others.

Limitations and Future Directions:

One limitation of the research presented in this thesis is that the mechanism through which perspective taking was proposed to affect creativity under different social motives was not measured. I am thus unable to confirm that perspective taking made the situational norm of the cooperative or competitive setting salient, which in turn affected the creative outcome negatively or positively, respectively. I am also unable to rule out any other potential mechanisms such as the salience of the anticipated interaction or social loafing, as mentioned above. In a future study, the self-other overlap, the salience of the situational norm, the salience of the anticipated interaction, and social loafing should be measured in order to explore the possible mediating roles these three potential mechanism might play.

Another limitation of this research was that the participants never actually engaged in any cooperative or competitive interaction with one another. Anticipating a cooperative or competitive interaction might have different effects on creative idea generation than actually engaging in such an interaction. However, the use of priming techniques that put a participant in the mindset of engaging with another person has become quite popular in the research arena and seems to be successful (e.g. Brewer & Gardner, 1996). Furthermore, the participants never met the person whose perspective they were supposed to take, which might make perspective taking more difficult. However, taking the perspective of a person whom one has never met is still

possible by imagining oneself in the other's situation or by using stereotypes about the other (Galinsky, Wang, & Ku, 2008). Nevertheless, these two limitations, taken together, suggest that a follow-up study should look at the effects of taking another group member's perspective during an actual group brainstorming task.

Another limitation was the use of an incentive system. One reason why the competitive perspective takers did not generate more creative output than the participants in the egocentric conditions, as expected, might be that a reward was promised in the form of a chance to win $100. This type of extrinsic motivation has been shown to decrease creativity (Kruglanski, Friedman, & Zeevi, 1971; Amabile, 1996).

CONCLUSION

In conclusion, the current study demonstrates that the long held belief that a shift in perspectives aids creative idea generation depends on what that shift looks like. Taking another person's perspective seems to be detrimental rather than beneficial for three main aspects of creativity. Cooperative perspective takers generated fewer ideas, these ideas were less original, and the ideas stemmed from less disparate categories than those of competitive perspective takers. Thus, whether perspective taking hinders or aids creative idea generation depends on the social motive, cooperation or competition, respectively. But, because perspective taking mainly occurs under cooperative circumstances, it seems that perspective taking might mainly be a hindrance to creative output in everyday life.

APPENDIX A - Tables and Figures

Table 1: Demographic Data of Participants

Average Age	**Gender**	**Ethnicity**				
		Caucasian	Asian	African-American	Hispanic	Other
19.4 years Stdev: 3.2	60 females 60 males	N=71 (59.2%)	N=22 (18.3%)	N=16 (13.3%)	N=5 (4.2%)	N=6 (4.9%)

Table 2: Means and Standard Deviations of Dependent Variables by Condition.

Condition	**N**	**Fluency**	**Originality**	**Flexibility**
Cooperation/Perspective Taking	30	9.7 (8.3)	42.5 (17.2)	5.7 (4.0)
Cooperation/Egocentric	29	13.0 (7.8)	48.9 (9.6)	7.2 (3.4)
Competition/Perspective Taking	29	14.0 (7.3)	50.2 (6.7)	7.7 (3.2)
Competition/Egocentric	32	12.2 (8.9)	49.1 (14.9)	6.3 (4.2)

Table 3: Correlations Between Creativity and Personal Norm Variables.

	Personal Norm (cooperation)	**Originality**	**Flexibility**
Originality	-.18 (p=.052)		
Flexibility	-.09 (p=ns)	.47 (p<.0001)	
Fluency	-.17 (p=.07)	.5 (p<.0001)	.85 (p<.0001)

Figure 1: *The Effect of Perspective Taking and Social Motive on Fluency.*

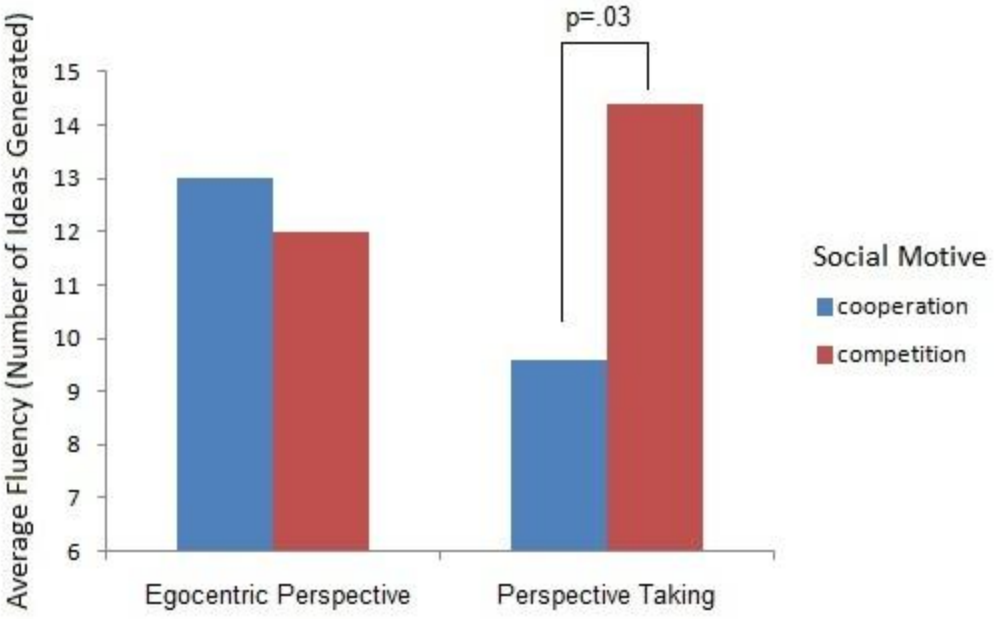


Figure 2: *The Effect of Perspective Taking and Social Motive on Originality.*

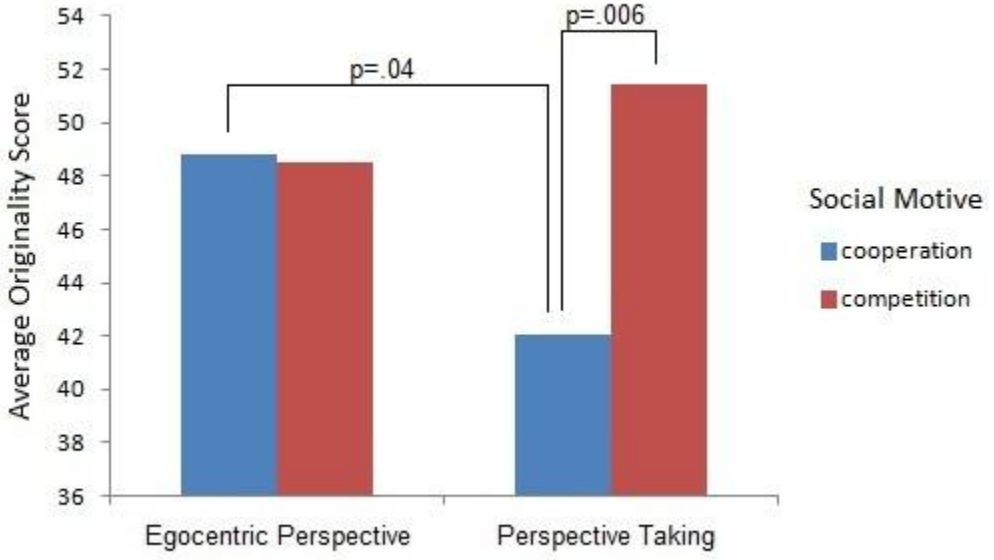
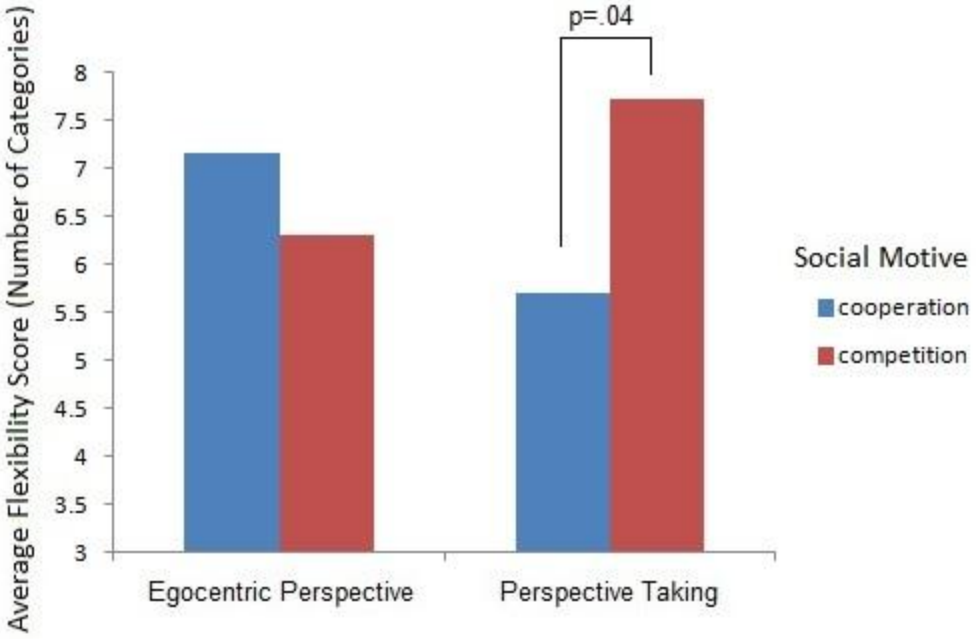


Figure 3: *The Effect of Perspective Taking and Social Motive on Flexibility.*



APPENDIX B - Perspective Taking Condition Questionnaire

POST-PROBLEM-SOLVING QUESTIONNAIRE

A. The following questions are designed to test your comprehension of the instructions delivered by the experimenter. Please rate the extent to which you agree with each of the following statements on the scale below.

1	2	3	4	5
Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree

_____1. I was asked to take the perspective (put myself into the shoes) of another participant.

_____2. I was told that I will compete against another participant on a later problem solving task.

_____3. I was told that I will cooperate with another participant on a later problem solving task.

_____4. At the beginning, I wrote about what the other participant might be thinking and feeling.

_____5. At the beginning, I wrote about what I was thinking and feeling.

B. For the following statements, please rate what you do **in general**, and use the following scale.

1	2	3	4	5
Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree

_____1. I sometimes find it difficult to see things from the "other guy's" point of view.

_____2. I try to look at everybody's side of a disagreement before I make a decision.

_____3. I sometimes try to understand my friends better by imagining how things look from their perspective.

_____4. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

_____5. I believe that there are two sides to every question and try to look at them both.

_____6. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

_____7. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

C. Read each statement and indicate *how it made **you** feel to imagine the other participant's thoughts and feelings about your future interaction*.
Please rate the extent to which you agree with each of the following statements on the scale below.

1	2	3	4	5
Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree

_____1. I felt calm

_____2. I felt secure

_____3. I was tense

_____4. I was regretful

_____5. I felt at ease

_____6. I felt upset

_____7. I was worrying over possible misfortunes

_____8. I felt rested

_____9. I felt anxious

_____10. I felt comfortable

_____11. I felt self-confident

_____12. I felt nervous

_____13. I was jittery

_____14. I felt "high strung"

_____15. I was relaxed

_____16. I felt content

_____17. I was worried

_____18. I felt overexcited

_____19. I felt joyful

_____20. I felt pleasant

D. Please rate the extent to which you agree with each of the following statements on the scale below.

1	2	3	4	5
Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree

_____1. I feel winning is important in both work and games.

_____2. Doing your best isn't enough; it is important to win.

_____ 3. It is important that I do better than others.

_____4. I want to be the best every time I compete.

_____5. Success can be best defined as a situation in which there are both winners and losers.

_____6. I try harder when I am in competition with other people.

_____7. I judge my performance on whether I do better than others rather than on just getting a good result.

_____8. It is important to cooperate with others.

_____9. I feel cooperating with others is important in both work and games.

_____10. I feel good when I cooperate with others.

_____11. Success can be best defined as a situation in which everyone wins.

E. Please rate the extent to which you agree with each of the following statements on the scale below.

1	2	3	4	5
Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree

_____1. I rarely worry about seeming foolish to others.

_____2. I worry about what people will think of me even when I know it doesn't make any difference.

_____3. I become tense and jittery if I know someone is sizing me up.

_____4. I am unconcerned even if I know people are forming an unfavorable impression of me.

_____5. I feel very upset when I commit some social error.

_____6. The opinions that important people have of me cause me little concern.

_____7. I am often afraid that I may look ridiculous or make a fool of myself.

_____8. I react very little when other people disapprove of me.

_____9. I am frequently afraid of other people noticing my shortcomings.

_____10. The disapproval of others would have little effect on me.

_____11. If someone is evaluating me I tend to expect the worst.

_____12. I rarely worry about what kind of impression I am making on someone.

_____13. I am afraid that others will not approve of me.

_____14. I am afraid that people will find fault with me.

_____15. Other people's opinions of me do not bother me.

_____16. I am not necessarily upset if I do not please someone.

_____17. When I am talking to someone, I worry about what they may be thinking about me.

_____18. I feel that you can't help making social errors sometimes, so why worry about it.

_____19. I am usually worried about what kind of impression I make.

_____20. I worry a lot about what my superiors think of me.

_____21. If I know someone is judging me, it has little effect on me.

_____22. I worry that others will think I am not worthwhile.

_____23. I worry very little about what others may think of me.

_____24. Sometimes I think I am too concerned with what other people think of me.

_____25. I often worry that I will say or do the wrong things.

_____26. I am often indifferent to the opinions others have of me.

_____27. I am usually confident that others will have a favorable impression of me.

_____28. I often worry that people who are important to me won't think very much of me.

_____29. I brood about the opinions my friends have about me.

_____30. I become tense and jittery if I know I am being judged by my superiors.

F. Study Purpose

If you think that you can guess what this study was about, please write it on the lines below.

_____

_____

_____

_____

G. Personal Identification

Net ID: _____

H. Demographics

1. Your year in college: ___ Freshman ___ Sophomore ___Junior ___Senior

2. You are: ___ Male ___Female

3. Your birth year: 19____

4. Your ethnic identity (if multiple try to select the one you identify most strongly with)?

___ African-American/Black ___Asian-American/Asian

___European-American/White ___ East Indian

___Native American ___Hispanic/Latino/Chicano

___Other (please specify) _____

APPENDIX C - Egocentric Perspective Conditions Questionnaire

POST-PROBLEM-SOLVING QUESTIONNAIRE

A. The following questions are designed to test your comprehension of the instructions delivered by the experimenter. Please rate the extent to which you agree with each of the following statements on the scale below.

1	2	3	4	5
Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree

_____1. I was asked to take the perspective (put myself into the shoes) of another participant.

_____2. I was told that I will compete against another participant on a later problem solving task.

_____3. I was told that I will cooperate with another participant on a later problem solving task.

_____4. At the beginning, I wrote about what the other participant might be thinking and feeling.

_____5. At the beginning, I wrote about what I was thinking and feeling.

B. For the following statements, please rate what you do **in general**, and use the following scale.

1	2	3	4	5
Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree

_____1. I sometimes find it difficult to see things from the "other guy's" point of view.

_____2. I try to look at everybody's side of a disagreement before I make a decision.

_____3. I sometimes try to understand my friends better by imagining how things look from their perspective.

_____4. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

_____5. I believe that there are two sides to every question and try to look at them both.

_____6. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

_____7. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

C. Read each statement and indicate *how it made **you** feel to think about your own thoughts and feelings about your future interaction.*
Please rate the extent to which you agree with each of the following statements on the scale below.

1	2	3	4	5
Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree

_____1. I felt calm

_____2. I felt secure

_____3. I was tense

_____4. I was regretful

_____5. I felt at ease

_____6. I felt upset

_____7. I was worrying over possible misfortunes

_____8. I felt rested

_____9. I felt anxious

_____10. I felt comfortable

_____11. I felt self-confident

_____12. I felt nervous

_____13. I was jittery

_____14. I felt "high strung"

_____15. I was relaxed

_____16. I felt content

_____17. I was worried

_____18. I felt overexcited

_____19. I felt joyful

_____20. I felt pleasant

D. Please rate the extent to which you agree with each of the following statements on the scale below.

1	2	3	4	5
Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree

_____1. I feel winning is important in both work and games.

_____2. Doing your best isn't enough; it is important to win.

_____ 3. It is important that I do better than others.

_____4. I want to be the best every time I compete.

_____5. Success can be best defined as a situation in which there are both winners and losers.

_____6. I try harder when I am in competition with other people.

_____7. I judge my performance on whether I do better than others rather than on just getting a good result.

_____8. It is important to cooperate with others.

_____9. I feel cooperating with others is important in both work and games.

_____10. I feel good when I cooperate with others.

_____11. Success can be best defined as a situation in which everyone wins.

E. Please answer the following statements on this scale:

1	2	3	4	5
Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree

_____1. I rarely worry about seeming foolish to others.

_____2. I worry about what people will think of me even when I know it doesn't make any difference.

_____3. I become tense and jittery if I know someone is sizing me up.

_____4. I am unconcerned even if I know people are forming an unfavorable impression of me.

_____5. I feel very upset when I commit some social error.

_____6. The opinions that important people have of me cause me little concern.

_____7. I am often afraid that I may look ridiculous or make a fool of myself.

_____8. I react very little when other people disapprove of me.

_____9. I am frequently afraid of other people noticing my shortcomings.

_____10. The disapproval of others would have little effect on me.

_____11. If someone is evaluating me I tend to expect the worst.

_____12. I rarely worry about what kind of impression I am making on someone.

_____13. I am afraid that others will not approve of me.

_____14. I am afraid that people will find fault with me.

_____15. Other people's opinions of me do not bother me.

_____16. I am not necessarily upset if I do not please someone.

_____17. When I am talking to someone, I worry about what they may be thinking about me.

_____18. I feel that you can't help making social errors sometimes, so why worry about it.

_____19. I am usually worried about what kind of impression I make.

_____20. I worry a lot about what my superiors think of me.

_____21. If I know someone is judging me, it has little effect on me.

_____22. I worry that others will think I am not worthwhile.

_____23. I worry very little about what others may think of me.

_____24. Sometimes I think I am too concerned with what other people think of me.

_____25. I often worry that I will say or do the wrong things.

_____26. I am often indifferent to the opinions others have of me.

_____27. I am usually confident that others will have a favorable impression of me.

_____28. I often worry that people who are important to me won't think very much of me.

_____29. I brood about the opinions my friends have about me.

_____30. I become tense and jittery if I know I am being judged by my superiors.

F. Study Purpose

If you think that you can guess what this study was about, please write it on the lines below.

_____

_____

_____

_____

G. Personal Identification

Net ID: _____

H. Demographics

1. Your year in college: ___ Freshman ___ Sophomore ___Junior ___Senior

2. You are: ___ Male ___Female

3. Your birth year: 19____

4. Your ethnic identity (if multiple try to select the one you identify most strongly with)?

___ African-American/Black ___Asian-American/Asian

___European-American/White ___ East Indian

___Native American ___Hispanic/Latino/Chicano

___Other (please specify) _____

APPENDIX D

Instructions - A

1. You will later cooperate with another participant on a problem solving task. If your team performs among the 3 highest performing teams, your team will be entered into a raffle to win $100.

2. In order to prepare for the later interaction with another participant, I would like you to imagine what the other participant is thinking and feeling. That is, imagine what the other participant is likely thinking and feeling about cooperating with you on a problem-solving task. Really try to take the other participant's perspective, put yourself into this person's shoes and look at the situation through this person's eyes. Now, please write a paragraph about what this person might be thinking and feeling about your future cooperative interaction.

Instructions - B

3. You will later compete against another participant on a problem solving task. If you win this competition, you will be entered into a raffle to win $100.

4. In order to prepare for the later interaction with another participant, I would like you to think about how you feel. That is, what are you thinking and how are you feeling about competing against another participant on a problem-solving task. Really try to picture the upcoming situation and think about how it will make you feel. Now, please write a paragraph about what you are thinking and how you are feeling about your future competitive interaction.

APPENDIX E

Brainstorming Tasks

For this task, I would like you to brainstorm new ideas. Specifically, consider the following scenario:

After years of mismanagement and poor quality food, a university restaurant has finally gone bankrupt and is being shut down. The school administration is trying to decide what new business should go into that space. You will now have 10 minutes to generate as many ideas as possible on what new business should go into that space.

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